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AUTHOR Armstrong, David F.
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ABSTRACT

The increase in tuition and expenditures at Montgomery College were analyzed through the use of the Higher Education Price Index (HEPI) based upon 1967 dollars. This index gives an indication of the effect of inflation upon a given amount of goods and services. Application of the HEPI to Montgomery College data since 1967 reveals that tuition for county residents has risen by 2.3% as of 1979 ($10.00 to $10.23 per credit hour) in terms of 1967 dollars, while college expenditures per full-time equivalent (FTE) student have risen by 23% ($1018 to $1254). Thus in terms of 1967 dollars, student tuition projected for 1979 represents a smaller proportion of expended funds than it did in 1967. By breaking the increases in operating expenditures since 1967 into components, one finds that the major components of increase have been inflation and an increased enrollment. However, the real cost per FTE student has also increased by a small amount. This last result suggests that quantity and quality of educational services have increased since 1967. The real cost per FTE has declined since 1973, indicating that the College has been successful in combatting inflation during the past six years. Data tables and graphs are used to illustrate study findings. (MB)

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COMPONENTS OF THE INCREASE IN COLLEGE OPERATING EXPENDITURES SINCE 1967

An analysis of the impact of inflation, increased enrollment, and increased costs on the total operating expenditures of Montgomery College

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David F. Armstrong, Acting Director

Office of Institutional Research and Analysis

MONTGOMERY COLLEGE

1978

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OIRA Report No. 9-3
Revised as of 2/2/79

COMPONENTS OF THE INCREASE IN COLLEGE OPERATING EXPENDITURES SINCE 1967

Inflation has affected all sectors of American life during recent years, but its impact on higher education has only recently come under close scrutiny. The research on inflationary impacts upon higher education has involved extensive analysis of price increases in the "market basket" of goods and services required to conduct the educational enterprise. The increase in tuition and expenditures at Montgomery College can be compared with that of other institutions of higher education throughout the nation through the use of the Higher Education Price Index (HEPI)* based upon 1967 dollars. This index gives an indication of the effect of inflation upon a given amount of goods and services; that is, for a particular year it represents the proportion by which these goods and services have increased in price since the base year of 1967. This inflationary impact has been most apparent to students as increasing tuition and to institutions as increases in the costs of salaries, energy, equipment and supplies.

Application of the HEPI to Montgomery College data since 1967 reveals that tuition for county residents has risen by 2.3 percent as of FY79 ($10.00 to $10.23 per credit hour) in terms of 1967 dollars during this period (Table I), while college expenditures per Full-Time Equivalent Student (FTE)** have risen by 23 percent ($1018 to $1254) (Table II). Thus, in terms of 1967 dollars, student tuition projected for 1979 represents a smaller proportion of expended funds than it did in 1967.

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*Halstead, D.K., Higher Education Prices and Price Indexes, 1977 Supplement, National Institute of Education, DHEW, 1977.

**Full-time equivalent student = 30 credit hours.

TABLE I

TUITION BY RESIDENCE

FY 1967-1980

FY	COUNTY		STATE		NON-RESIDENT	
	Current Dollars	1967** Dollars	Current Dollars	1967** Dollars	Current Dollars	1967** Dollars
1967	$10.00	$10.00	$20.00	$20.00	$30.00	$30.00
1968	11.00	10.38	22.00	20.75	33.00	31.13
1969	14.00	12.37	26.50	23.41	39.00	34.45
1970	14.00	11.57	26.50	21.90	39.00	32.23
1971	15.00	11.66	32.00	24.88	42.00	32.66
1972	15.00	11.05	32.00	23.56	42.00	30.93
1973	17.00	11.89	40.00	27.97	57.00	39.86
1974	17.00	11.10	40.00	26.13	57.00	37.23
1975	17.50	10.53	40.00	24.07	62.00	37.30
1976	20.00	11.29	40.00	22.57	70.00	39.50
1977#	(20.00)	(10.60)	(45.00)	(23.86)	(70.00)	(37.12)
1978	22.00	10.89	47.00	23.27	65.00	32.18
1979	22.00	10.23	47.00	21.86	65.00	30.23
1980*	24.00	10.48	50.00	21.83	69.00	30.13

*Board adopted 1/25/79.

#Does not include the $2.00 per credit hour surcharge.

**Constant purchasing power for institution calculated on 1967 base.

TABLE II

MONTGOMERY COLLEGE ANNUAL OPERATING EXPENDITURES

FISCAL YEARS 1967-1980

FY	HIGHER EDUCATION PRICE INDEX	BUDGET	CREDIT HOURS	FTE#	COST/FTE# CURRENT $	COST/FTE# IN 67$
1967	1.00	$3,054,667	89,981	2999	$1018	$1018
1968	1.06	4,293,199	105,271	3509	1223	1154
1969	1.13	5,535,364	125,292	4176	1325	1171
1970	1.21	7,802,923	157,131	5238	1490	1231
1971	1.28	9,963,633	186,172	6206	1606	1248
1972	1.36	12,448,620	206,181	6873	1811	1334
1973	1.43	14,582,093	229,060	7635	1910	1336
1974	1.53	15,865,544	243,946	8132	1951	1274
1975	1.66	17,165,172	255,084	8489	2021	1222
1976	1.77	18,638,700	267,646	8954	2082	1175
1977	1.89	19,779,989	266,449	8882	2227	1181
1978	2.02##	21,246,579	272,486	9083	2339	1158
1979	2.15##	24,740,724*	275,284*	9176	2696	1254
1980	2.29##	27,110,924**	285,520**	9517	2849	1244

*Values based on Board-approved budget and projected enrollments.

**Values based on budget adopted 1/25/79 and November 1978 enrollment projection.

#FTE = 30 credit hours

##Figures supplied by D. K. Halstead of DHEW, 2/1/79, based on annual inflation rate of 6.6%.

According to this method, the increases in college operating expenditures since 1967 can be further analyzed into the following components: a) the increase due to inflation; b) the increase due to the simple fact that the enrollment has increased dramatically; c) the increase due to increased expenditures per student. By breaking the increases in operating expenditures since 1967 into components, we can show that the increase due to inflation is the total operating cost in current dollars minus the same cost expressed in 1967 dollars:

(1) Inflation = CB - CB/I

Where: CB = Current budget

I = Higher Education Price Index

The equations for increases due to increased enrollment and increased expenditures per student, expressed in 1967 dollars, are as follows:

(2) Due to increase in enrollment = ΔFTE x \$1018

Where: ΔFTE = Current FTE - '67 FTE or 2999

\$1018 = 1967 cost per FTE

(3) Due to increased expenditures per FTE = CFTE x ΔCost

Where: CFTE = Current FTE

ΔCost = Current cost per FTE in '67 dollars - \$1018

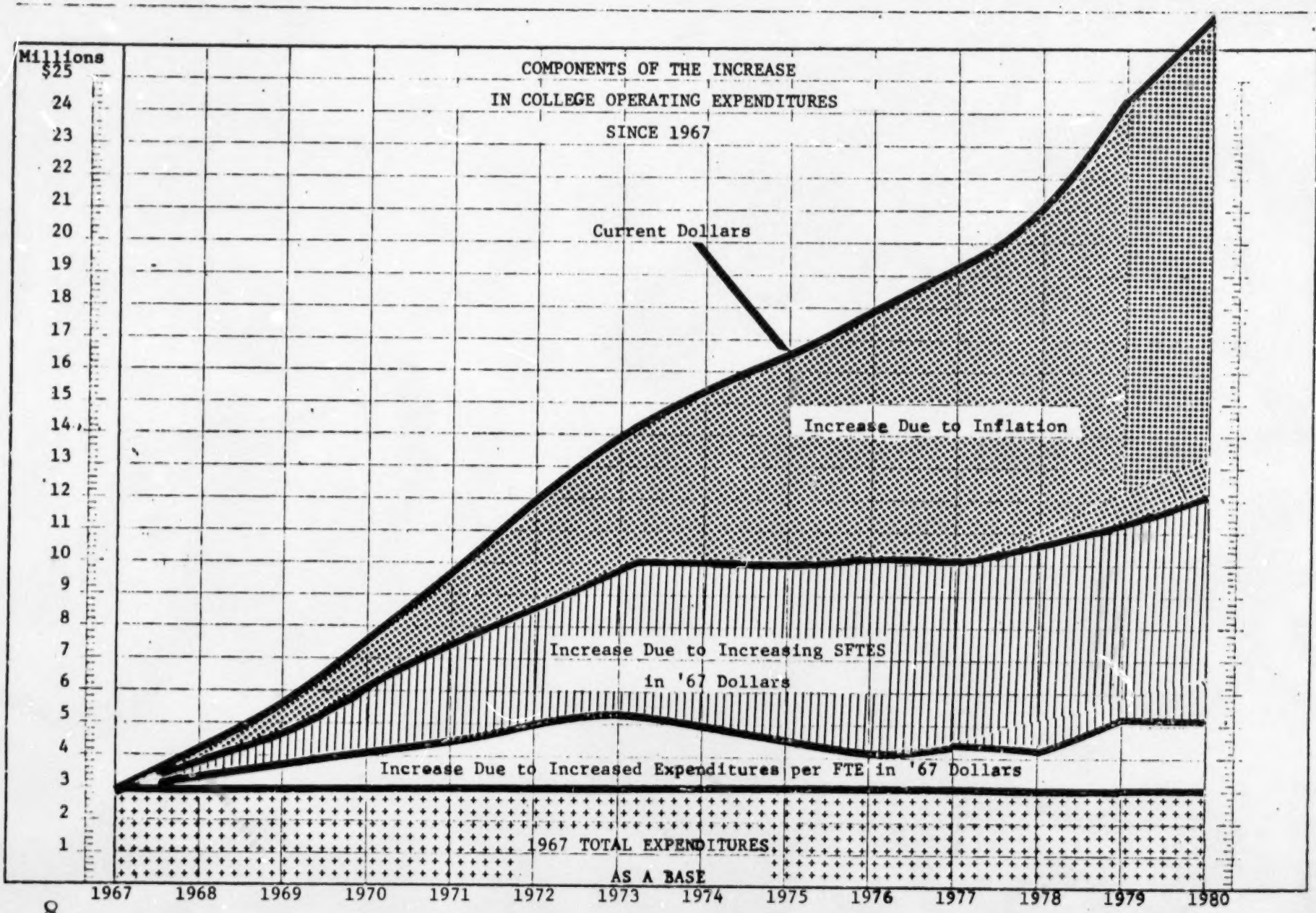
Thus, the major components of increase since 1967 have been inflation and an increased enrollment (Table III). However, the real cost per full-time equivalent student has also increased by a small amount during this period (Figure A). This last result suggests that quantity and quality of educational services available to students have increased substantially since 1967. It is especially worthy of note, however, that the real cost per FTE has declined since 1973, indicating that the College has been successful in combating inflation during the past six years.

TABLE III

COMPONENTS OF INCREASES IN OPERATING EXPENDITURES

FY 1968-1980

FY	DUE TO INFLATION	DUE TO INCREASES IN FTES (1967 $)	DUE TO INCREASES IN EXPENDITURES PER FTES (1967 $)
1968	$ 243,012	$ 519,180	$ 476,340
1969	645,467	1,198,186	637,044
1970	1,354,227	2,278,284	1,115,745
1971	2,215,863	3,263,708	1,429,395
1972	3,281,743	3,943,732	2,168,478
1973	4,384,826	4,719,448	2,423,152
1974	5,502,681	5,225,394	2,082,802
1975	6,837,151	5,588,820	1,684,534
1976	8,120,247	6,062,190	1,401,596
1977	9,292,190	5,988,894	1,444,238
1978	10,728,471	6,193,512	1,269,929
1979	13,233,411	6,288,186	2,164,460
1980	15,272,093	6,635,324	-2,148,840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COMPONENTS OF THE INCREASE
IN COLLEGE OPERATING EXPENDITURES
SINCE 1967
Current Dollars
Increase Due to Inflation
Increase Due to Increasing SFTES
in '67 Dollars
Increase Due to Increased Expenditures per FTE in '67 Dollars
1967 TOTAL EXPENDITURES
AS A BASE
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980